



Linking Smallholder Plantations to Global Markets: Lessons from the IKEA model in Vietnam

Nguyen Vinh Quang, To Xuan Phuc, Naomi Basik Treanor, Nguyen Ton Quyen, Cao Thi Cam

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This report was released by Forest Trends' Forest Policy, Trade, and Finance program, which since 2000, has sought to create markets for legal forest products while supporting parallel transformations away from timber and other commodities sourced illegally and unsustainably from forest areas.

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Acronyms

CoC	Chain of Custody
CPC	Commune People’s Committee
EUTR	European Union Timber Regulation
FSC	Forest Stewardship Council
ha	hectares
ILPA	Illegal Logging Prohibition Act (Australia)
IWAY	IKEA Way on Purchasing Products, Materials and Services
FLEGT	Forest Law Enforcement, Governance, and Trade
Mha	million hectares
NAFOCO	Nam Dinh Forest Products JSC
RWE	roundwood equivalent
SDC	Swiss Agency for Development and Cooperation
SFC	State Forestland Company
VPA	Voluntary Partnership Agreement
WWF	World Wildlife Fund

Executive Summary

Vietnam’s domestic forest plantations currently produce approximately 24 million m³ of roundwood equivalent (RWE) timber annually, with small, household-level producers supplying 16 million m³ RWE (60-70 percent). The demand for plantation-grown timber has increased as Vietnam’s wood processing industry has grown. In particular, plantation wood is considered “low risk” for export markets with demand-side regulations requiring that all timber product imports must be legal. Thus, plantation forests are increasingly favored by industry as an important, stable source of raw material that can be verified as legally-sourced.

Export-oriented wood processing companies in Vietnam are increasingly entering into legally-binding contractual relationships with the small household producers that are the major source of domestically-grown plantation timber. This relationship maximizes the comparative advantage of each party: processing companies provide investment capital, technical capacity, technology, management ability, and a guarantee to buy all (qualified) harvested timber; households provide land and labor.

One of the best examples of this “linkage model” is the partnership between households in Vietnam’s mountainous areas and companies that specialize in processing wood products for the IKEA Group (hereinafter “IKEA”). Companies and households participating in this model have invested in the production of large-diameter timber (acacia) and achieved Forest Stewardship Council (FSC) certification, which is required by IKEA for all wood products sourced in Vietnam and sold in international markets. This model has increased incomes for plantation households – which are able to sell FSC-certified timber at prices 10-18 percent higher than non-certified timber – and has provided a steady supply of material inputs to processing companies. Through FSC certification, environmental benefits have also been safeguarded. However, households have struggled to meet FSC certification requirements, and it remains to be seen whether the “linkage model” will be economically sustainable in the long term.

This study assesses the IKEA linkage model, with a particular focus on its economic, social, and environmental impacts. From September 2016 to March 2017, report authors conducted interviews with (i) representatives of IKEA in Vietnam, (ii) wood processing companies responsible for manufacturing products (generally, furniture) for IKEA, (iii) Chain of Custody (CoC) sawmills processing FSC-certified material from households to the wood processing companies, and (iv) plantation households in Quang Tri, Yen Bai, and Tuyen Quang provinces that supply the FSC-certified timber. Information was also collected from local authorities providing administrative support, including the Forest Protection Departments, District Farmers' Unions, and Commune People's Committees in Phu Tho, Tuyen Quang, Yen Bai, and Quang Tri provinces.

Key Findings

- **The IKEA linkage model has created a stable supply of legal timber for Vietnam’s wood processing industry while reducing poverty in Vietnam’s mountainous areas.** It has catalyzed the following economic, social, and environmental benefits:
 - **Economic:**
 - *For IKEA:* The linkage model ensures that IKEA can obtain a stable supply of FSC-certified timber, minimizing the risk of using illegal raw material sources.¹
 - *For wood processors:* The linkage model provides processing companies (IKEA’s “strategic suppliers”) with financial and technical support and large, long-term standing orders from IKEA. Association with IKEA’s high corporate governance standards has enabled companies to meet other buyers’ sustainability requirements and increase their prestige, production

¹ All sourcing for IKEA is conducted in compliance with the IKEA Way on Purchasing Products, Materials, and Services (IWAY), IKEA’s code of conduct for suppliers of products and services, and FSC’s combined Forest Management/Chain of Custody (FM/CoC) regulations and standards.

capacity, competition, and brand value. Companies therefore have a foundation to invest more effectively in sustainable production systems, including CoC sawmills, and collaboration with households to plant trees.

- *For plantation households:* In collaborating with wood processing companies, plantation households benefit from access to low- or zero-interest loans from the companies for investing in plantations (e.g., buying seedlings or fertilizer),² and are able to sell certified timber at higher prices (10-18 percent) than non-certified timber thus improving household incomes. However, as explained below, this price premium may not be enough for households to cover the costs of certification on their own.
- **Social:** Given the strategic importance of Vietnam’s wood product export industry, the Vietnamese government has promoted increased recognition of land tenure for households involved in the linkage model. The provision of land use certificates legitimizes households’ land claims and has helped reduce conflict within communities, while incentivizing more proactive investment in plantation production. In addition, the model helps ensure compliance with laws and regulations on labor, hygiene, and worker safety and health.
- **Environmental:** The IKEA linkage model requires compliance with a number of environmental standards.³ Companies also provide technical assistance to households to discourage traditional farming practices with negative environmental externalities. Finally, by incentivizing legal, sustainable domestic timber production, the linkage model helps Vietnam reduce its dependency on imported timber – particularly timber sourced from countries with poor forest governance and high rates of illegal logging.
- **However, the following constraints limit the effectiveness of the IKEA linkage model:**
 - **Though the cooperation agreement between wood processing companies and households is legally binding, households sometimes decide to sell timber to other buyers at the time of harvest.** Households’ violation of contractual arrangements with companies was observed in several areas over the course of our research. When this happens, the companies often find that recourse for enforcement of their contracts is limited, either because local authorities are not involved in the linkage or because they side with households. This poses a risk for processing companies hoping to ensure a steady supply of certified wood products to IKEA.
 - **Processing companies garner relatively low net returns, at a profit margin of just 4-5 percent.** They are also subject to rigorous requirements from IKEA to maintain a steady annual output and high-quality product at low prices. With these requirements, only large wood processing companies, with strong technical and financial resources and (more importantly) the ability to wait until a full production cycle is complete, are able to take part in the linkage model.⁴
 - **While FSC certification is necessary to meet IKEA’s corporate standards, the costs are too expensive for most smallholder producers. The 10-18 percent price increase for FSC-certified timber is unlikely to be scaled up in the long term, because the full cost of FSC timber production is not being absorbed by the households themselves.** Instead, FSC certification fees are currently borne by wood processing companies. The extra labor and administrative systems that would be required are also

² These loans incentivize longer growth cycles and production of logs that are larger in diameter, and higher in economic value, than those typically produced by plantation households.

³ These include: use of legal raw material inputs; limits on clear-cutting of forest areas exceeding 5 ha; prohibition on extensive burning of vegetation; prohibition on herbicide application; requirement of “protection belts” for water sources, high conservation value areas and erosion hazard areas.

⁴ Investment in plantation may take up to 8-12 years. Small companies with limited resources cannot afford this long-term investment.

not yet borne by the households. Many households find that benefits derived from the sale of FSC timber under the IKEA linkage model are not enough to offset the costs. For more households to want to engage in the IKEA linkage model, the costs of FSC compliance and certification therefore need to be decreased, or the price premium increased.

- **Households are limited by a number of other contextual factors**, including insecure land tenure, small plantation size (generally 1-3 ha), and limited technical capacity to comply with FSC regulations.
- **Processing companies elect to purchase only good-quality, large-diameter wood (at least 14 cm)**. Producing wood of this size requires an 8-12 year production cycle, and not all households have the financial security to wait this initial period for their first harvest of large logs.
- **Households must find other markets for smaller-sized logs and branches. It is not easy for the households to find markets for these products, and they often fetch lower prices.** If households have to bear the FSC timber production costs, their economic returns may be lower than those obtained if they had chosen not to certify.
- **New legality requirements under Vietnam’s FLEGT-VPA may encourage smallholders further to cultivate FSC-certified timber.** Vietnam concluded negotiations of its Forest Law Enforcement, Governance, and Trade (FLEGT) Voluntary Partnership Agreement (VPA) with the European Union in November 2016, and is currently working to finalize the Timber Legality Assurance System (TLAS) that underpins the use of legal wood in entire supply chains. Once finalized, all timber exported from Vietnam will be verified as legal, meeting the demands of the growing number of timber-consuming countries that have developed legislation to exclude illegal timber from import markets. While these legality requirements may open Vietnam’s access to other import markets, to date IKEA still requires FSC-certified timber. Households may still elect to cultivate FSC-certified timber if the economic returns are higher than those for legal timber. FSC-certified timber can easily meet legality requirements under the TLAS and this may stimulate wood processing companies’ and smallholder tree growers’ linkage models.

Recommendations

- Access to productive land is a prerequisite for households to collaborate with wood processing companies. The government should continue allocating forestland to households, particularly landless households, to ensure they are able to participate in the IKEA linkage model. Households’ access to land could be expanded by transferring part of the land currently managed ineffectively by state-owned forest companies and Commune People’s Committees.⁵
- In the context of emerging international market requirements on the legality of timber product imports, and with specific policy measures under development to reduce high-risk imported timber into Vietnam, the Vietnamese government should promote linkage models between wood processing companies and smallholder tree growers to maximize the strengths and mitigate the limitations of each side. To reduce production costs, households should be incentivized to produce legal, rather than FSC-certified, timber.
- Local authorities should play a role in the linkage model by promoting it as an investment vehicle. Participation of local authorities increases companies’ confidence to invest in collaboration with smallholders. Local authorities can therefore play a connecting role between the two parties, but should remain neutral and ensure that both households and companies benefit from the collaboration and that contract terms are honored.

⁵ Currently, 2.7 Mha of forestland is still managed by Commune People’s Committees.

- The government should promote and effectively enforce regulations related to land use and management more generally, and work to secure smallholder and household land tenure specifically. This can be accomplished by issuing more land use certificates. As stated above, secure tenure provides a firm foundation and trust for collaboration.
- The government should ensure the effective implementation of contract law, helping to minimize risks when smallholder producers violate the terms of their contract with the wood processing companies.
- Future research on the IKEA linkage model should attempt to further quantify the costs and benefits to IKEA, companies, and households (for example, rate of growth and taxes paid by companies, or changes in household incomes).
- Companies collaborating with smallholders in the timber industry should:
 - Undertake efforts to better understand all elements of their supply chains, including smallholders. Under certain conditions – where households have adequate resources, and risks and benefits are fairly distributed throughout the supply chain – collaboration can guarantee that timber is legally produced, in line with Vietnam’s FLEGT-VPA requirements, while being a “win-win” for companies and forest farmers alike.
 - Increase economies of scale to reduce transaction costs for smallholders and companies alike. This can be achieved by encouraging cooperative formation, or by assisting smallholders in registering as business entities, then associations.
 - Continue investing in areas where the Government of Vietnam has allocated forestland to smallholders (recognizing that secure tenure reduces transaction costs) or has otherwise created an enabling policy environment for farmers to succeed (e.g., provided training on cultivation techniques, better access to roads, or loans).

1. Background

1.1 Forestland Allocation in Vietnam

Over the past two decades, the Government of Vietnam has run a coordinated campaign to reallocate State-owned forestland to households and communities, as well as State Forestry Companies (SFCs) and private companies (also known as “economic organizations”). As of December 2015, the government had allocated 22 percent (3.15 Mha) of Vietnam’s 14 Mha of forest area to approximately 1.4 million households, and an additional 10 percent (1.45 Mha) to 134 SFCs (see Appendix 1). Vietnam stands in contrast to its neighbors in the Mekong subregion, namely Laos, Cambodia, and Myanmar, where 99 percent of land remains controlled by the State.

Forestland is a key resource for improving livelihoods in Vietnam’s rural, mountainous areas, especially for poor and ethnic-minority households. Research has demonstrated that allocating forestland to households has led to significant economic, social, and environmental benefits (To and Tran 2014, Meyfroidt and Lambin 2008a, b). With more secure landholdings, households are incentivized to invest in forest plantation development. This has increased forest cover, improved livelihoods, and created a stable supply of raw material to Vietnam’s burgeoning wood processing and export markets, with greater social benefits at scale than if forestland remained in SFC control.

However, skeptics of this smallholder tenure model advocate that allocating land to large entities – i.e., SFCs with proven production capacity, capital, and technical skills – reduces production and transaction costs, thus leading to more effective land use. These advocates view allocation to smallholders as inefficient, claiming that the small size of each landholding translates to higher manufacturing and transaction costs, that the production capacity of households is low, that households lack capital and other resources, and that their ability to carry out intensive farming is limited. In other words, households’ potential as economic actors is still viewed as secondary to large companies, which are believed to be more efficient.

1.2 Plantation Forests and Export Markets

The development of plantation forests plays an important role in Vietnam’s furniture processing and export industries. Plantations are currently supplying approximately 24 million m³ of roundwood equivalent (RWE) annually, with small household producers supplying 16 million m³ RWE (60-70 percent) (To 2017, Nguyen et al. 2016). Approximately 80 percent of plantation timber is used as wood chips and medium-density fiberboard (MDF) due to its small diameter. The remaining 20 percent is used to produce higher-value, processed wood products, mainly for export. Market trends show that there is high demand for plantation-grown timber in order to supply Vietnam’s growing export-oriented markets, particularly for consumer countries with “demand-side” regulations requiring that all timber product imports are legal, including the US Lacey Act, European Union Timber Regulation (EUTR), Australian Illegal Logging Prohibition Act (ILPA), and a number of measures in development in Asian consumer countries. Thus, plantation forests are increasingly favored by industry as an important, stable source of raw material. In 2016, 78 percent of Vietnam’s wood and wood product exports were bound for countries with demand-side regulations (Figure 1).

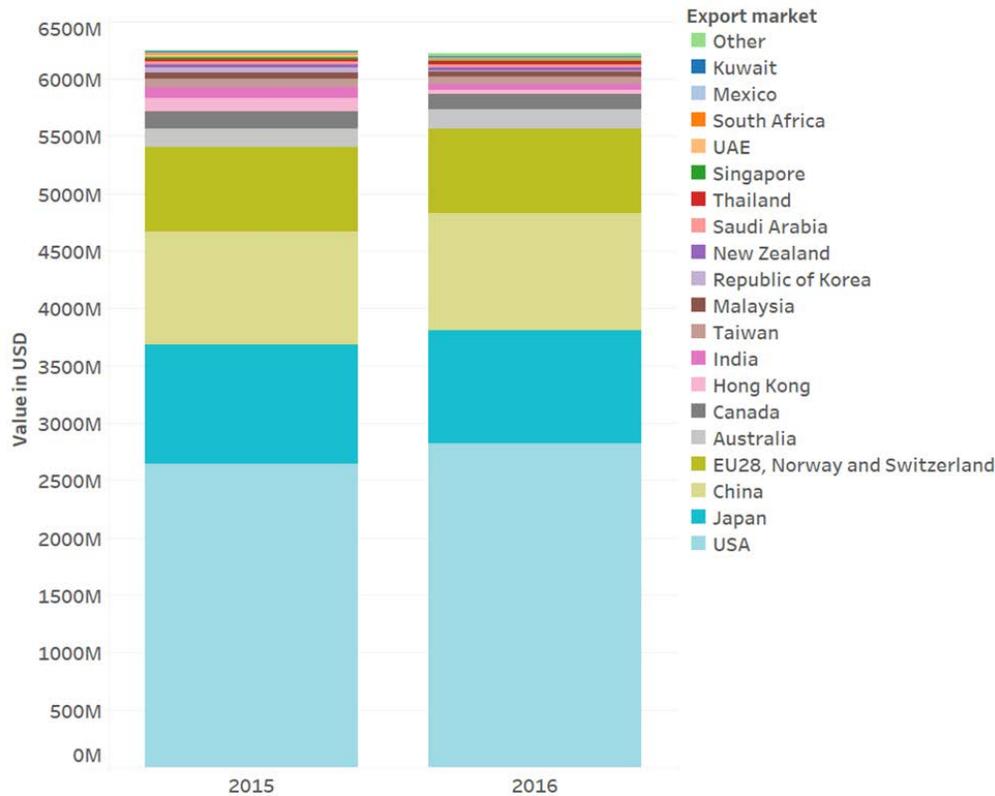
In order to maintain this source of legal timber, export-oriented wood processing companies in Vietnam have thus established, and are developing, strong links to plantation households. This relationship maximizes the comparative advantage of each party: processing companies provide investment capital, technical capacity, technology, management ability, and timber output coverage; households provide land and labor.

One of the best examples of this “linkage model” is the partnership between companies that specialize in processing wood products for the IKEA Group (“IKEA”), and households in Vietnam’s mountainous areas in Phu Tho, Tuyen Quang, Yen Bai, and Quang Tri provinces. Companies and households participating in this model (hereinafter the “IKEA linkage model”) have developed a large supply of raw wood material and achieved Forest Stewardship Council (FSC)

certification,⁶ which is required by IKEA for all wood products sourced in Vietnam and sold in international markets. This model succeeds in increasing economic benefits for plantation households, providing a steady supply of material inputs to processing companies, and bringing about positive social and environmental benefits.

The linkage model emerged spontaneously between processing companies and forest plantation households, due to market demand rather than regulatory intervention. It is necessary to assess the advantages and disadvantages in the organization and operation of this model to glean relevant lessons about future company-household partnerships and channel these lessons toward relevant policy actors in Vietnam.

Figure 1: Vietnam’s Major Export Markets for Wood and Wood Products in 2015 and 2016 (Value in USD)



Source: General Department of Vietnam Customs

⁶ See Appendix 2 for basic information on FSC.

2. Objectives and Methodology

The objective of this study is to assess the effectiveness of the IKEA linkage model between export-oriented wood processing companies and forest plantation households in developing a large-scale, stable source of timber and achieving FSC.

Specific objectives include:

- To assess the participation and role of the parties in the model;
- To assess the advantages and disadvantages of the establishment and operation of the model;
- To assess the economic, social, and environmental performance of the model; and,
- To learn the relevant lessons on the linkage model between wood processing companies and forest plantation households.

This study utilizes both primary and secondary data sources. Primary sources include direct interviews with representatives of IKEA in Vietnam; 4 export furniture manufacturers for IKEA (also known as IKEA suppliers); 2 sawmills that supply FSC-certified timber materials harvested from households to wood processing companies; and 14 forest plantation households in Quang Tri, Yen Bai, and Tuyen Quang provinces currently participating in the IKEA linkage model. Secondary sources include reports, State management documents, other research on forestland use and management and the development of plantation forestry in Vietnam, and background documentation from local authorities including the Forest Protection Department (FPD), District Farmers' Associations, and Commune People's Committees in Phu Tho, Tuyen Quang, Yen Bai, and Quang Tri provinces.

This study presents the key findings from is one of eight individual case studies in a broader suite of comparative research on smallholder land tenure in the Mekong subregion, coordinated by Forest Trends for the Mekong Regional Land Governance (MRLG) project.

3. The IKEA Linkage Model

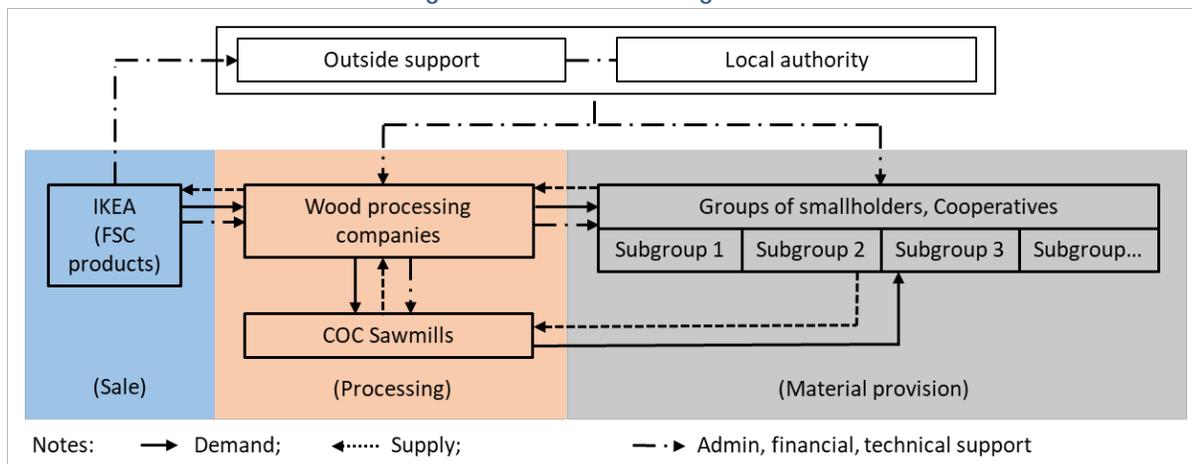
The IKEA linkage model (Figure 1) involves the following stakeholders:

- i. The IKEA Group, responsible for marketing wood products to consumers;
- ii. Wood processing companies, responsible for manufacturing products for IKEA;
- iii. Forest plantation households, responsible for supplying timber material to wood processing companies; via
- iv. Chain of Custody (CoC) sawmills, responsible for ensuring that timber from households is pre-processed prior to the official manufacturing stage.

In addition, the model is supported by:

- v. Local authorities, from the provincial level to the commune and village level (responsible for administrative support), and
- vi. Outside organizations (responsible for technical and/or financial support).

Figure 2: The IKEA Linkage Model



3.1 Linkages between IKEA and Its Suppliers

IKEA in Vietnam

IKEA is the largest furniture retailer in the world, and the third largest corporate user of timber products (IKEA 2012). Currently, IKEA products are available in 43 countries and territories worldwide (*ibid.*). IKEA is not directly involved in manufacturing, choosing instead to source from trusted suppliers. IKEA has been present in Vietnam since 1994 and currently has 10 Vietnamese suppliers/processors. All IKEA goods produced in Vietnam are bound for export markets. In 2016, the total transaction values between IKEA and its suppliers in Vietnam reached approximately EUR100 million (US\$118 million).⁷

IKEA adopts a rigorous process with strict criteria in choosing suppliers, requiring large-scale manufacturing capabilities and a minimum turnover of US\$1 million per year in processed wood products. Additional criteria relate to suppliers' capital and technical capacity, good corporate governance, and their commitments to increase annual productivity,

⁷ Direct interview with an IKEA representative, 2016

long-term cooperation and sole production for IKEA. Generally, only large-scale wood processors with a steady supply of raw materials can meet these requirements. Qualified suppliers sign and implement a Strategic Partnership Agreement to formalize their relationships with IKEA, which usually lasts between three and five years and forms the basis for all contracts or signed orders between parties.

Minimum Product Requirements

IKEA mandates that all of its wood furniture products, regardless of material (i.e., solid wood, veneer, plywood, layer-glued, or wood-based board), meet the following minimum requirements (IKEA 2012):

- Do not originate from forests that have been illegally harvested;
- Do not originate from operations with forest-related social conflict;
- Do not originate from intact natural forests or other geographically identified High Conservation Value (HCV) forests unless certified according to a system recognized by IKEA;
- Do not originate from natural forests in the tropical and subtropical regions being converted to plantations or non-forest use; and
- Do not originate from officially recognized and geographically identified commercial genetically modified tree plantations.

IKEA also stipulates that the suppliers only use in IKEA products approved tree and bamboo species whose origin is known and compliant with IKEA minimum requirements on raw wood material. Other species are only accepted if written confirmation is issued in advance by the responsible forest authority in the area. High-value tropical tree species are, in addition, covered by valid FSC Forest Management and Chain-of-Custody certificates.

Since January 1, 2017, IKEA has required that suppliers in Vietnam use 100 percent FSC-certified timber.

Supplier Relationships

The rights and obligations of IKEA and its suppliers (Table 1) are included in both the initial Strategic Partnership Agreement and annual signed contracts. The relationships between IKEA and its suppliers are close, and built on mutual trust to ensure a sustained partnership.

Table 1: Rights and Obligations of IKEA and its Suppliers

	IKEA	Suppliers
Rights	<ul style="list-style-type: none"> • To have a stable supply of FSC-certified products; to reduce the risks of using illegal timber materials. • To create trust systems throughout the supply chain; to reduce monitoring costs. 	<ul style="list-style-type: none"> • To obtain loans from IKEA or borrow in advance if there is demand. • To be supported by IKEA to build a business management system with high quality that meets the IKEA requirements and meets most of the quality requirements from other buyers. • To guarantee long-term orders (3-5 years).
Obligations	<ul style="list-style-type: none"> • To ensure stable and long-term consumption of all of the products manufactured by its suppliers. • To support the technical and management skills of its suppliers (through a third party). • To provide capital for its suppliers as required. • To monitor and audit its activities for its suppliers and sawmill systems in the supply chain. 	<ul style="list-style-type: none"> • To ensure the supply of FSC-certified products in the right quantity, species, quality, and time. • To ensure the increase of annual quantity by increasing manufacturing productivity without expanding its scale of production (e.g., no expansion of factories or labor force). • To ensure there is no fluctuation in product price.

According to some IKEA suppliers, the return (or marginal rate) that suppliers achieve from working with IKEA is approximately 4-5 percent.⁸ While this is lower than the return rate that the suppliers earn from dealing with other buyers (commonly 10-20 percent), suppliers enjoy the stability of a long-term business relationship (three to five years), as well as IKEA's technical assistance and capacity-building support. This has enabled IKEA suppliers to manufacture products that meet the rigorous requirements of different export markets.

3.2 Linkages between IKEA Suppliers and Forest Plantation Households

In order to maintain a steady supply of FSC-certified timber, IKEA suppliers source raw materials from SFCs, imports from other forest-producing countries into Vietnam, and forest plantation households. To maintain the connection with forest plantation households, wood processing companies sign contracts with household groups with established plantation forest areas. Contracts are signed with a designated member of a household "group," representative of cooperatives or other networks that are usually supported by outside organizations (Sections 3.4, 3.5). The rights and obligations of companies and households entering into these agreements are outlined in Table 2.

⁸ Some interviewed companies confirm that their net return/ margin gained from working with IKEA is up to 10 percent.

Table 2: Rights and Obligations of Suppliers and Forest Plantation Households

	IKEA Supplier / Wood Processing Company	Forest Plantation Household
Rights	<ul style="list-style-type: none"> To maintain a stable source of timber materials that meet IKEA product requirements. Actively control the source of timber materials, to reduce dependence on imported timber materials. 	<ul style="list-style-type: none"> To access capital support with low- or zero-interest rates in order to prolong the growing cycle of planted forests, to create a large source of timber materials with high economic value. To access new scientific and technological assistance in plantation forest development to increase forest productivity, minimize or eliminate negative impacts on people and the environment due to certain farming practices (e.g., using toxic chemicals, cultivation that causes soil erosion, cultivation without protective methods and equipment for planting, maintenance, harvesting, etc.) There is a stable output market for the timber harvest.
Obligations	<ul style="list-style-type: none"> To support finance for the establishment and operation of household groups (e.g., meetings, monitoring forest development). To grant low- or zero-interest credit for households in the group in order to prolong the cycle of plantation forests. To advise on techniques for households to comply with FSC requirements. To sponsor the evaluation cost for certification. To commit to purchase timber at a price higher than the market price at the time of harvesting. 	<ul style="list-style-type: none"> To obey the technical requirements to ensure certified timber. To extend the cycle of trees in order to create large-diameter wood. To (preferably) sell timber to affiliated wood processing companies.

3.3 Linkages between IKEA Suppliers and CoC Sawmills

In order to avoid confusion between FSC and non-FSC timber sources, some IKEA suppliers invest in the construction of exclusive CoC sawmills or in machinery, capital, and technical support for established local sawmills. After raw logs are minimally processed⁹ they are transported to sawmills as inputs for further processing. The use of local sawmills helps companies reduce transportation costs.

These IKEA-supported sawmills are supplied by certified timber from households taking part in the IKEA linkage model, but the sawmills themselves have no formal cooperation with forest growers – this connection is facilitated by wood processing companies. In order to qualify for use by IKEA suppliers, sawmills need to meet all FSC CoC standards and must ensure that all preliminary processing of raw logs is tightly controlled to avoid the risk that timber of unknown or unverified origin enters the supply chain. Benefits for the sawmills are based on each unit of input timber material (or output) of the preliminary wood processing stage.

3.4 Role of Local Government

Local authorities help establish and facilitate the IKEA linkage model. They play an important role in raising awareness among stakeholders, participate in widely introducing the model to local people, and promote and support the formation of forest plantation household groups. Provincial authorities often consult on, or determine, where the

⁹ Raw timber in log form is typically cut into “fine wood” according to the specifications of the processing plant.

model is carried out. Under their leadership, the district, commune, and village officials may become involved in various ways, from sending personnel to organize or participate in village and commune meetings in order to promote the model to sponsoring promotional activities. Local authorities also approve the establishment of household groups and representatives for these groups. In some areas, they may delegate agencies such as the Forest Extensional Service or the Farmers' Association to represent forest plantation groups in signing the contracts with the IKEA's suppliers, and to serve as the focal point for activities related to the implementation of the FSC certificate.

3.5 Support from Outside Organizations

Most households groups that produce FSC-certified timber in the study provinces have received financial and technical support from outside organizations. Examples of outside support include financing to forest plantation households from the Swiss Agency for Development and Cooperation (SDC) and IKEA (via World Wildlife Fund [WWF]) in Quang Tri, from the Food and Agricultural Organization of the United Nations (FAO) through the Farmers Union in Yen Bai Province, and from the World Bank via the WB3 project¹⁰ (implemented by the Provincial Forestry Project Management Board) in Quy Nhon (Binh Dinh Province). In addition to financing the linkage model, donor support to date has included technical assistance to forest growers in compliance with FSC requirements from planting to harvest, formation and operation of household groups, and connecting households and processing companies. Available information on outside support provided by both external organizations and wood processing companies themselves is documented in Section 4 of this report; however, exact costs have not been calculated in all cases.

¹⁰ <http://eng.vbsp.org.vn/forest-sector-development-project-fsdp-wb3-contribution-to-poverty-reduction-and-environment.html>

4. Case Studies: Wood-Processing Companies in the IKEA Linkage Model

This section details research findings on three wood processing companies participating in the IKEA model linking suppliers and forest plantation households with FSC-certified timber. The following section is a discussion on environmental, social, and economic impacts of the model to date.

IKEA's requirement that all wood products be FSC-certified has proved to be an important motivator for suppliers to seek out households with certified forestland holdings. Market demand for legal and sustainable wood products is thus transferred down the supply chain, from IKEA to the household level. Further, the linkage model succeeds with the support of local authorities who promote the model and incentivize its development. As outlined below, these efforts have been successful – wood processing companies are increasingly expanding their agreements with IKEA, and broadening their geographic scope by linking with additional forest plantation households.

4.1 NAFOCO: Yen Bai Province

Nam Dinh Forest Products JSC (NAFOCO)¹¹ is one of IKEA's largest wood product suppliers in Vietnam. Currently, NAFOCO has four factories in Nam Dinh with approximately 3,200 employees. In 2016, NAFOCO's total exports were valued at approximately US\$36 million, with 90 percent channeled to IKEA's export markets.

The Yen Bai Provincial government has supported NAFOCO's efforts to develop FSC plantation timber. Specifically, the Yen Bai Department of Agriculture and Rural Development issued a decision to allow FSC implementation by household groups in the province.¹² The Department also selected Yen Binh district as the pilot site for the model of household certification, starting in April 2016, with a pilot scale of 1,000 to 3,000 ha. The Farmer's Association of Yen Binh district has been assigned as the focal agency, working in collaboration with the Commune People's Committees, to organize households with available forest plantation areas that wish to participate in the FSC-certified forest model into household groups. These groups then formed an association, represented by the chairman of the District Farmer's Union.

At the time of this research, 494 households in 53 villages under 5 communes in Yen Binh district had participated in the linkage model.¹³ The total area of FSC-certified production forest was 1,737 ha¹⁴, 94 percent (1,637 ha) of which was *Acacia mangium*, with the remainder either Bodhi or eucalyptus. This area was certified by FSC on October 4, 2016 for a period of five years.

Multiple external sources have provided support during the certification process. FAO's Forest and Farm Facility assisted households in complying with FSC requirements, channeled through the local Farmers' Union. Once households had met the relevant certification criteria, the Farmers' Union invited the GFA Consulting Company to conduct an assessment,¹⁵ the costs of which (US\$8,000) were paid by NAFOCO. In addition, NAFOCO supplied approximately VND 120 million (around US\$5,200) to cover office equipment to be used by the household groups' representative—the District Farmer's Association—for related activities, committed to providing capital or advance payment to certified acacia growers from the sixth year onward to incentivize the development of large-diameter logs, and pledged to purchase FSC-certified materials at 10 percent above the average market price at the time of transaction (or higher).

¹¹ For more information, see: <http://nafoco.com.vn>.

¹² Decision 988 /SNN-NLN dated 16 November 2015 of Yen Bai Department of Agriculture and Rural Development on the implementation of FSC forest certification for households, families, and groups of households in Yen Bai province.

¹³ Communes include Dai Dong, Phu Thinh, Tan Huong, Thinh Hung, and Yen Binh town.

¹⁴ The total area proposed for FSC certification was originally more than 2,000 ha, comprising 627 households, but 1,737.5 ha of this area, belonging to 614 households, were eligible for certification. Some smaller households are grouped into one representative household, so the assessment filed by the certification body lists only 494 households.

¹⁵ See http://www.gfa-cert.com/index_vn.html

In December 2016, a household that attended the association of household groups in Yen Binh harvested 1.5 ha of acacia and sold it to NAFOCO one day after the FSC certificate was granted. As promised, NAFOCO purchased the household's harvest (all small-diameter trees) for VND 150,000 per m³ higher than the average market price, and paid the additional VND 100,000 per m³ freight cost to transport logs to the closest CoC sawmill.¹⁶ Compared with the selling price of non-certified timber of the same diameter at the time of trading (VND 1.4 million per m³), NAFOCO paid nearly 11 percent more without freight cost, or 18 percent including freight cost.

4.2 Woodland: Tuyen Quang Province

Woodland Joint Stock Company,¹⁷ a major IKEA supplier in Vietnam as of April 2014, is cooperating with forest plantation households in Tuyen Quang Province to source FSC-certified timber. The company now has four main manufacturing plants with 1,300 workers. On average, Woodland supplies IKEA with approximately 50 containers of wood products per month.

In 2016, with the approval of the provincial People's Committee, the People's Committee of Yen Son District and the People's Committees of Cong Da, Phu Thinh, and Tien Bo Communes, Woodland signed an agreement with 197 households (mainly Kinh, and some ethnic minority [Tay and Nung] households) to plant FSC-certified acacia. The company supported all FSC assessment expenses for an area of 848 ha, and on December 6, 2016 the area became officially FSC-certified.¹⁸

4.3 Scansia Pacific: Quang Tri Province

Scansia Pacific Co., Ltd. is an IKEA supplier with three factories (in Ho Chi Minh City, Dong Nai, and Thua Thien Hue) specializing in processing furniture for export markets. The company employs approximately 2,000 workers. In 2016, the company's exports were valued at US\$32 million, of which US\$25 million went to IKEA.

In Quang Tri Province, SDC and IKEA support 564 forest plantation households in seven locales¹⁹ to achieve certification, and in 2016 Scansia Pacific signed an agreement to purchase timber from forest plantation groups. The company has sponsored part of the FSC assessment costs for acacia forests totaling 1,392 ha, and has provided loans of up to VND 4 million (US\$176) per hectare, per year, with interest rates of less than 0.2 percent in comparison to the average annual interest rates provided by domestic commercial banks, for FSC-certified acacia growers from the sixth year onward. The purpose of these loans is to ensure households have a stable source of funding in order to prolong the growing cycle, thereby creating a source of large-diameter timber. Scansia Pacific then agrees to purchase certified acacia at prices at least 15-18 percent higher than the market price of non-certified wood at the time of transaction.

In addition to the linkage with forest plantation households in Quang Tri, Scansia Pacific has also formed linkages with households in Thua Thien Hue. The company implemented the FSC assessment in Thua Thien Hue in October 2016 and was expected to obtain an additional 1,000 ha of acacia plantation forest household groups that were FSC-certified from November 2016 onward. Scansia Pacific has just signed an agreement with IKEA for an additional five years.

¹⁶ In this case, timber was transported to Truong Thanh sawmill in Yen Binh district; this sawmill cooperates with NAFOCO in order to meet FSC CoC requirements, and in turn NAFOCO supplies machinery and technical support. Following minimal processing at Truong Thanh, timber is then transferred to NAFOCO for further processing.

¹⁷ For more information, see: www.woodland.com.vn/gioi-thieu-chung

¹⁸ In addition to cooperating with households, Woodland also works with five SFCs in Tuyen Quang in order to develop certified plantation forest timber. At present, the total certified forest area of these five companies has reached 11,462 ha.

¹⁹ As of 2016, these include: Vinh Linh District: Vinh Thuy, Vinh Tu, Vinh Son Communes; Gio Linh District: Trung Son Commune; Trieu Phong District: Trieu Ai, Trieu Dong Communes; Hai Lang District: Hai Phu, Hai Chanh, Hai Son Communes; Cam Lo District: Cam Thuy, Cam Tuyen, Cam Chinh, Cam An, Cam Nghia Communes, Cam Lo Towns; Dong Ha City: Dong Thanh Ward; Quang Tri town: An Don ward. The total FSC-certified area in 2016 was 1,722.40 ha.

Box 1: FSC Forest Plantation Household Group in Quang Tri Province

The Quang Tri Forest Certification Group ("the Group") is comprised of 564 member households in 17 communes within 7 districts of Quang Tri Province. It has been FSC-certified since September 17, 2010. On September 17, 2015, an area of 1,392.4 ha was re-certified, with household forestland holdings ranging from 0.3 ha to 31.7 ha. The Group obtained FSC certification with support from Germany's KFW Development Bank, through projects implemented by WWF Vietnam. As of 2016, the total certified area has increased to 1,722.4 ha.

The Group cultivates three species: *Acacia auriculiformis*, *Acacia mangium*, and hybrid acacia, with *Acacia mangium* comprising the largest area. Approximately 1,600 to 2,000 trees are planted per hectare with an 8-10 year harvesting cycle. From the fifth year onward the group will prune approximately 600 trees per year, and collect around 39 m³ of wood chips, generating a profit of VND 10-20 million after factoring in costs such as harvesting and transportation. One hectare of *Acacia mangium* cuttings yields, on average, 72 m³ of sawnwood and approximately 78-97 m³ of woodchips after 10 years.

The Group has agreed to supply certified timber to two wood processing companies, first Thanh Hoa Wood Processing Company and currently Scansia Pacific. Thanh Hoa previously committed to purchase sawn timber at US\$20 per m³; Scansia Pacific has now committed to purchasing at prices 15-18 percent higher than the market rate for non-FSC timber. The profit from one hectare of FSC-certified forest is approximately VND 20 million higher than non-certified forest of the same age (approximately 8-10 years).

In 2010, 35 ha of timber in an 8-year cycle and 4 ha of an 11-year cycle were sold. In 2013, 11 ha of timber in a 10-year cycle were sold. The group plans to sell 14 ha timber from 8-year cycles in 2017.

Sources: (1) Direct interviews, FSC certified plantation group, Kinh Monh village, Trung Son commune, Gio Linh district, Quang Tri Province, October 2016 (2) FM evaluation report (3) To review certificate re-issue – to summarize publicly (4) Association of Quang Tri Household Forest Certification Group (5) GFA certification (6) To review on August 12-14, 2015

5. Effectiveness of the IKEA Linkage Model

5.1 Economic Impacts

For Wood Processing Companies and IKEA Suppliers

Our research demonstrates that wood processing companies ultimately profited from their relationships with IKEA. Association with the company and its high standards for corporate governance enabled companies to meet other buyers' sustainability requirements and increase their prestige, production capacity, competition, and brand value. This led companies to invest more effectively in sustainable production systems.

IKEA's contracts with wood processing companies were generally of large value. For example, in 2016, IKEA placed orders with NAFOCO that were worth approximately US\$32.5 million; the company's profit subsequently increased by an estimated US\$1.3 million – 1.6 million. That same year, Scansia Pacific received orders from IKEA that were worth US\$25 million, yielding an estimated profit of US\$1 – 1.25 million. IKEA's long-term commitment with partners also helps ensure that suppliers invest in FSC-certification for raw material inputs. While orders from IKEA are generally stable, in contrast, those from other purchasing partners are less regular. This makes it difficult for processing companies to make long-term business plans, and for suppliers to invest in production costs for the long term (e.g., capital costs, such as factories, machinery, and other equipment; technological innovation; labor recruitment and training of new hires; identifying new partners; and, expanding and improving the area from which raw timber materials are sourced). Finally, IKEA's product orders are simple and change little in terms of design, which also helps to reduce enterprises' costs.

However, the IKEA linkage model also presents several risks for wood processing companies. These include:

- Low net returns: Information obtained from IKEA suppliers showed that the net profits (after tax) per product for companies participating in the linkage model was just 4 to 5 percent.²⁰ The processing companies considered this to be much lower than the profit from other partners' orders (with an average net profit margin of 15 to 20 percent).
- Capacity requirements: The IKEA linkage model was found to only be suitable for processing companies with large financial capacity and production scales, given the high capital and production requirements from IKEA.
- CoC requirements: IKEA's sustainability policy requires that processors pay more in order to ensure chain of custody by FSC standards. To do so, IKEA's suppliers must build or support CoC sawmills and assist forest plantation households (and household groups) with certification costs. For example, both NAFOCO and Scansia Pacific financed assessment expenses for household groups to take part in the linkage model in Yen Bai and Quang Tri, respectively, at a cost of approximately US\$8,000 per assessment. NAFOCO also provided office equipment for the Yen Bai household group representative board, and advanced VND 200,000 per hectare for household groups in Thanh Hoa as part of their contract terms. Scansia Pacific also provided low-interest rates for households who maintain certified plantation forests from the sixth year in a growing cycle onward.
- Contractual enforcement issues: The cooperative agreements between companies and households legally bind households to sell harvested timber exclusively to the contracted processing company. However, in practice, households have elected to sell timber elsewhere, thus violating these contracts. Companies have little recourse for enforcement because the capacity of local authorities is limited, and because often the authorities themselves will side with households. This poses a very real financial risk to companies.

²⁰ The research team did not have access to the methodology for determining this figure.

For Forest Plantation Households

As a condition of the IKEA linkage model, wood processing companies commit to purchase all FSC-certified timber materials from households at a minimum price that is 10-18 percent higher than the market price for non-certified timber of the same type.²¹ Information obtained from some FSC-certified households in Quang Tri shows that the average profit, per household, per hectare of Acacia Mangium is approximately VND 117-140 million. The average profit per m³ or 1 ton of timber material is approximately VND 0.84-0.94 million.²² Households also benefit, in some cases, from access to low- or zero-interest loans from companies. On a more fundamental level, the Vietnamese government's recognition of household land tenure in forest areas – and incentivization of households through external support, as outlined above – has been essential to households' participation in export-oriented wood supply chains, whether through the IKEA linkage model or other means.

However, this paper does not calculate several expenses that play an important role in the price structure of plantation timber resources for households. These include: (i) the cost of complying with FSC requirements for all stages, from land preparation, planting, tending, protection, to harvesting (at present, outside organizations have generally borne these costs through donor-funded projects or IKEA suppliers); (ii) household labor costs; and (iii) costs of certification. The costs of assessments required prior to granting FSC-certification is paid by IKEA suppliers. Assessments to obtain a five-year FSC certificate total US\$28,000, including an initial evaluation (approx. US\$8,000) and annual assessment costs for the subsequent four years (approx. US\$5,000 per year). These costs vary depending on the time required for the assessment, with the cost per unit of forest area being relatively less if the assessment covers a large geographic area and vice versa. Assessment costs are also lower if more households actively participate in a household group, whose total forest area will be evaluated in one assessment.

Several associations of FSC-certified household groups (such as in Quang Tri Province and Binh Dinh Province) have set up membership costs, which raise funds for associations' annual activities including FSC assessments. The Quang Tri groups stipulate that each member pay an annual fee of VND100,000, which is then utilized along with 7 percent of the additional 10-18 percent price increase paid for FSC-certified timber material. For example, if a buyer pays a 15 percent premium and the average household profit is VND 120 million/ha, household groups only need to harvest 115 ha per year if using 7 percent of the price increase for certified material, or 67 ha per year if using both 7 percent of the price increase and an additional membership fee (VND 100,000 per household per year), to cover certification expenses. Under these conditions, the Quang Tri group needs a minimum of 1,150 ha in order to ensure profits while participating in the linkage model. Currently, the Quang Tri group's forestland area is above the required minimum area to cover FSC-related costs and still yield a higher profit than if it were uncertified (for details on these calculations, see Appendix 3).

However, in most cases it is unclear whether the added value of the 10-18 percent selling price differential enables households to yield a higher profit than they would if their plantation households were uncertified. This is due to several additional factors, as follows (see Appendix 4 for a detailed breakdown of FSC requirements for certified households, compared to common practices among non-certified households practicing traditional forest management):

- Requirements for large-diameter timber: Processing companies only buy timber materials that meet certain standards for quality and size. The agreement between IKEA suppliers and households in Yen Bai, Tuyen Quang, and Quang Tri posits that suppliers will only purchase large diameter timber (small-ended diameter must be 14 cm or larger), and will not accept hollow logs. Households thus need to find other markets for the

²¹ For example, if 100 m³ of logs/hectare (including wood volume from pruning/making paper materials) is harvested from FSC-certified forests and the average selling price on the market is VND 1.5 million per m³ for non-certified timber (yielding a total revenue of VND 150 million/ha), FSC-certified timber would be purchased at VND 1.65-1.77 million/m³ (yielding a total revenue of VND 165-177 million/ha). In this case, households would earn VND 15-27 million/ha. Households with the average-sized certified forestland holdings (3 ha) would earn VND 45-81 million.

²² The Forest Economics Research Center (2016) calculated the selling price of timber materials to be VND 1.8 million per m³ in a 10 year harvesting cycle, and FSC-certified household groups in Quang Tri earned a profit of VND 1.35 million/m³ (included the labor cost of households in production costs, excluding the cost of certification). Source: Workshop on "Solutions to develop the appropriate linkage model in the value chain of manufacture and business of plantation forest timber and wood products," Forest Economics Research Center (under Forest Science Institute of Vietnam). December 21, 2016; Hanoi.

any remaining smaller trees, lower-quality wood, and branches. These are generally only marketable at a low price point as wood chips, paper materials, or firewood.

- Long harvesting cycle: The large-diameter trees required by FSC-certified, export-oriented wood processors require a growing cycle of 8 to 12 years, as compared to the 5- to 7-year cycle required for non-certified plantation wood. Households must have access to capital, or to external credit, in order to invest in these cycles. Requirements for long harvesting cycles, and the stringent technical procedures that often accompany them, also affect the short-term livelihood of households. Traditionally, forest plantation households are able to profit by intercropping trees with agricultural commodities such as maize or cassava within the first three years of a harvesting cycle (when trees are still small and without large canopy cover). FSC-certified households have longer periods with no income, during which they cannot rely on sales from intercropping other commodities in forest areas.
- Difficulties in complying with FSC requirements: FSC requirements consist of 10 principles and 56 criteria covering: (i) law, policy, and administration; (ii) planning and implementation techniques; (iii) economy; (iv) culture and society; and (v) ecology/environment. Compliance with these requirements increases manufacturing and labor costs compared to those of non-certified plantations.²³ Households practicing traditional farming techniques find compliance particularly difficult. In addition, the typical forestland holdings of certified households (which average between 1-3 ha) are scattered among non-certified household land. Management and harvesting within these fragmented landscapes is difficult, and households facing this added challenge find it more difficult to comply with FSC requirements.²⁴
- Diversity of plant cultivars: While households within a forest plantation group may be certified to cultivate different species, the diversity and quality of cultivars directly affects the uniformity and quality of harvested trees. This ultimately impacts households' marketability, as processing companies tend to specify which varieties of timber they will and will not purchase. Households must therefore be diligent in ensuring that the growing environment does not impact the overall quality of those species that will eventually make their way into IKEA supply chains.

Table 3 provides a comparison of revenues and costs for forest plantation households with and without FSC certification.²⁵ Future research should more closely examine household income levels to more accurately quantify changes attributable to participation in the linkage model.

²³ For example, FSC bans the use of herbicides and mass burning, giving preference to "controlled burning," which requires clearing the vegetation burning only in designated places; mandates that digging holes must be properly sized; and requires that the plastic packaging for pesticides must not be removed in the forest, rather it should be collected and maintained in prescribed places. All of these practices are more labor-intensive than their traditional alternatives.

²⁴ For example, households that are not taking part in FSC certification may not plant in accordance with regulations, may burn indiscriminately, and may use pesticides outside the permitted list. This has had a direct impact on certified forest areas. In addition, transportation between certified plantation areas (i.e., across non-certified areas) may also be time-consuming or difficult.

²⁵ Data for Table 3 were collected through surveys in Quang Tri and Yen Bai provinces.

Table 3: Economic Impacts of FSC-certified v. Non-certified Households²⁶

Model	FSC-certified Households in Quang Tri*		Non-FSC-certified Households in Yen Bai**	
Acacia cultivars	Australia Acacia mangium		Acacia Hybrid	
Plantation density	1,330-2,000 roots per ha		1,600-2,200 roots per ha	
Harvest cycle	10 years		7 years	
Indicator	Value (million VND/ha)	Note	Value (million VND/ha)	Note
Revenue from agricultural crops intercropped with forestry trees in the first 2 years			2 – 3	Cultivating corn, cassava, squash, beans
Revenue from the sale of pruning wood in the 3rd or 4th year			10 - 12	Keeping approximately 1,200 trees per ha. Selling price for pruning trees of 0.8-0.9 million VND per m ³
Revenue from the sale of pruning wood in the 5th or 6th year	10 – 12	Pruning 400-600 trees per ha	12 - 16	Keeping approximately 900-1,000 trees per ha. Selling price for pruning trees of 0.9 million VND per m ³
Revenue from timber sale at the end of cycle	157.5 – 181	10 years, total revenue for 90-100 m ³ of small-diameter (10 cm) sawnwood and 30-40 m ³ of wood chips. 70% of harvest is sold as sawnwood; 30% as woodchips. Selling price: <ul style="list-style-type: none"> Timber with diameter ≥ 14 cm: 1.5 million VND/m³ Timber with 10-13.9 cm diameter: 1.4 million VND/m³ Wood chips: 0.9 million VND/m³ 	72 – 96	7 years, total revenue 60 - 80 m ³ log, average price 1.2 million VND/m ³
Total revenue	167.5 – 201		96 - 127	
Total cost	50.3 – 60.3	Equivalent cost approx. 30%, including varieties, fertilizers, equipment, labor salary and harvest (outsourced), and transportation; excluding household labor and the FSC grant	32 – 42	Equivalent cost approx. 30%, including varieties, fertilizer, labor salary and harvest (outsourcing), and transportation; excluding household's labor salary
Total profit	117.2 – 140.7	Within 10 years	63 – 85	Within 7 years
Annual average profit	11.7 – 14.1		9 – 12.1	
Average profit per m ³ timber	0.84 – 0.94	140-150 m ³ includes the pruning volume, selling lumber and wood chips at the end of the 10-year cycle	0.7	90-120 m ³ includes the pruning volume, selling lumber and wood chips at the end of the 7-year cycle

Sources: *Calculated from interviews with FSC-certified forest plantation households who sold their timber in Gio Linh (Quang Tri Province), October 2016; **Calculated interviews with non-certified forest plantation households in Gio Linh (Quang Tri Province) and Yen Binh (Yen Bai Province), September-October 2016.

²⁶ The information provided in this table on timber productivity includes measurements in both tons and m³. According to Ministry of Agriculture and Rural Development (MARD) Circular 01/2012/BNPTNT, dated January 14, 2012 on the regulation of legal forest product dossiers and inspection of the forest products origin (Item 1, Article 4 on determining the quantity and volume of forest products), we use a conversion factor of 1,000 kg (1 metric tonne) = 1 m³ of logs. This report uses m³ for consistency.

For IKEA

Finally, the IKEA linkage model ensures that IKEA is able to maintain a steady supply of FSC-certified timber. While third-party certification is not a guarantee of legality under consumer countries' demand-side regulations such as the US Lacey Act and the EUTR, it minimizes the risks that illegal raw material sources enter the supply chain and ultimately reach sensitive markets.

5.2 Social Impacts

The IKEA linkage model has largely produced positive social impacts:

- The linkage model facilitates a value chain in which each party is able to capitalize on their strengths, and resolve or mitigate weaknesses, which leads to stable and sustainable business relationships. Mutual support helps parties reduce outside pressures, increase competitiveness, and invest more effectively, thereby enabling more sustainable economic development for society as a whole
- The prospect of value addition and access to IKEA's consumer markets has motivated the Vietnamese government to promote recognition of land tenure by granting land use certificates to forest plantation households. More secure tenure helps reduce conflict within and communities, and incentivizes households to invest proactively. On a related note, the organization of households into groups of forest growers, with clear and transparent regulatory oversight from local authorities, has created a consensus among households and encouraged group participation in the model.
- Local authorities have actively implemented regulations to comply with labor, hygiene, and health and safety laws in the harvesting and manufacturing process, which helps employees at these stages of the value chain protect their health.

However, some households are suspicious of the model, particularly in areas where linkages have only recently been created and no timber has yet been harvested. In interviews, households expressed doubts that the model was indeed economically beneficial and sustainable in the long term. They worried about whether companies would indeed purchase timber at a higher price and provide technical and financial support to the households; whether the higher financial and labor costs required to produce certified timber (vs. costs associated with traditional forest management practices) would be worth the investment; whether they could "take away" their forestland midway through a growing cycle if the model was ineffective or if the land was needed before harvesting; and, where to sell smaller-diameter timber that wood processing companies would not accept. In response to these concerns, most households opted to only participate using 40 to 80 percent of their land, and practice traditional (non-certified) forest management on the remainder.

5.3 Environmental Impacts

The linkage model requires compliance with a number of environmental standards, including the IKEA Way on Purchasing Products, Materials, and Services (IWAY) and FSC's Forest Management/Chain of Custody (FM/CoC) regulations. These standards help limit the loss or degradation of forests, water sources, and biodiversity, and include:

- Prohibition of illegally-sourced timber (or timber with unverified origin)
- Prohibition of timber sourced from High Conservation Value (HCV) forest areas
- Prohibition of clear-cut exploitation of large areas
- Prohibition of large-scale burning of forest cover (in favor of controlled burning)
- Prohibition of conversion timber from natural forests
- Prohibition of timber from designated water protection areas

- Prohibition of the use of most herbicides, other than those that have been tested and approved for environment and user safety
- Prohibition on pollution and littering
- Erosion protection
- Factory standards, such as those related to space, light, and dust

Finally, by promoting sustainable domestic timber sourcing, the linkage model helps Vietnam reduce its dependency on imported timber – particularly timber sourced from countries with poor forest governance and high rates of illegal logging.

6. Discussion

The IKEA linkage model is expanding, as is the area of FSC-certified forests managed by household groups in Vietnam. As of March 2017, this had reached 6,311 ha, equivalent to 4 percent of the country's total certified forest plantation area.²⁷ The number of participating households is also increasing.

Although the model is still in its inception phases in some areas, it has the potential to offer stable, long-term benefits for all parties involved – companies contribute technical and financial assistance and gain a source of certified timber that meets market requirements, and households are able to benefit from this assistance to improve the quality and timber of their forest resources. Consumer demand for certified timber products provides effective leverage, particularly given IKEA's size and global reach. However, in order for the model to be most effective and address the risks outlined in this report, it must address the following questions:

6.1 Who Administers the Model?

The relationships between households and processing companies should be strengthened by designating a focal organization that has the financial and technical capacity to establish, develop, and oversee the linkage model in a way that effectively responds to the interests of all involved. The linkage model itself is not an administrative organization, and stakeholders participate on a voluntary basis (under a “consent mechanism”).

6.2 Who Pays for Certification?

A more viable long-term solution is needed to avoid having households bear the burden of certification costs. While some households and household groups utilize available resources to participate in the linkage model, our research found a wide range of external support from affiliated companies or donor-funded programs. Examples include technical and financial support to form and operate forest plantation household groups, direct guidance for households to comply with FSC requirement, and covering the cost of assessment. These are not included in households' production price structure, and household interviews reveal that they would be unwilling to participate in the linkage model if they had to cover associated costs themselves. According to some households, factoring in these costs would negate any benefits achieved by cultivating FSC-certified timber. The linkage model, as currently structured, may therefore cease to exist if households are required to bear certification costs.

Information obtained from households shows that currently, households are able to derive more economic benefit from FSC-certified forests than non-certified, traditionally-managed forest plantations. However, these calculations do not account for the costs associated with FSC certification. Once those costs are factored in – and if households are required to pay them – it is unlikely that profits would be greater from certified plantations. This partially explains why households participating in the linkage model refrain from contributing their total forestland holdings. In addition, the long growing cycle for large-diameter wood requires households to have financial resources for long-term investments, which most households do not. Access to formal credit to cover these investments is almost impossible. Given these limitations, most of Vietnam's 1.4 million households with forest plantation holdings would be unable to participate in the linkage model. It is also unclear how, without continued support from external sources and given households' limitations, processing companies would be able to cover expenses without impacting their bottom line.

6.3 What Happens When Companies No Longer Need Households' Supply of Certified Timber?

In the linkage model, forest plantation households only obtain certification because of IKEA's requirement for certified timber. But when an IKEA supplier secures enough raw material (e.g., a large-enough area of certified, planted forests), the scope of trade between households and the company may level off. Some IKEA suppliers realized this concern, with

²⁷ 848 ha in Tuyen Quang province, 1,738 ha in Yen Bai province, 951 ha in Thuaa Thien Hue province, 1,722 ha in Quang Tri province, 1,052 ha in Thua Thien Hue and Quang Nam provinces, had been certified at the time of research.

one representative noting: *"I also started to worry ... I had promised to purchase all the output wood for households... If the supply is beyond our production capacity, I don't know how to solve this."* There are no quantitative data available on wood processing companies' demand for certified timber, or the price that companies can accept for certified timber. This lack of information makes it difficult to assess the sustainability of the current linkage model.

6.4 How Are Companies Impacted If Households Break Contract?

A major risk to companies relates directly to the cooperative relationship with plantation households. Contracts between the two parties are legally binding, but if households fail to comply with contract conditions (for example, if households sell timber to buyers other than the wood processing company as committed, or if timber is cut and sold before the designated growth cycle has ended), it is difficult for the company to bring collective legal charges against the households. While a few households breaking small contracts may not impact a large company, if the number of households reaches a tipping point, the company will need to seek new suppliers. As one company representative noted, *"households always hold the handle."* Some suppliers accept this risk, with one stating, *"I will accept that households may not sell timber at that time, but I will never cooperate with them in the future."*

6.5 Could Imports Replace Domestic Certified Timber?

In recent years, Vietnam has become more reliant on imported timber. The sustainability of the linkage model also depends on the availability and the cost of imported, certified timber, which could replace domestically-produced supply. Fortunately, imported acacia is more expensive than domestic acacia, and therefore channeled to higher-value manufacturing sectors. However, if the price of imports were to drop below that of locally-produced timber, assuming equivalent quality, the linkage model would be unviable.

6.6 How Is the Linkage Model Impacted by Demand-side Timber Import Regulations?

In the past decade, a number of countries have developed regulations to exclude illegally-logged timber from their markets for wood product imports. Together, the US, EU, and Australia – which have had operational regulations for several years – and a number of Asian countries now developing new measures, including Vietnam, account for over 90 percent of global timber imports in 2016 (Norman and Saunders 2017). Vietnam has put in place import control measures as part of its FLEGT-VPA with the EU in an effort to move away from illegal timber sources and to maintain access to markets with import legislation in place.

At present, 60-70 percent of Vietnam's domestically-produced timber comes from household forestland, with the remainder held by SFCs or cooperatives. Of the timber produced by households, the 20-30 percent with the highest value is exported as processed or semi-processed wood products, and 70-80 percent is used as woodchips. Households in Vietnam thus play a key role in supplying Vietnam's export market, and Vietnam has prioritized development of large-diameter domestic timber to reduce its dependency on imports from countries with high rates of illegal logging in order to enhance its position on the international market.

The IKEA linkage model has the potential to create a source of sustainable, legal material for the furniture industry and export markets with high added value, if households' needs are met and stakeholder relationships are based on a commitment to fair benefit-sharing. Given Vietnam's moves toward enhancing its legal timber supply, and the above-mentioned difficulties in meeting FSC requirements, consumer demand for legal timber should be leveraged to further develop the linkage model as a source of legal timber and create a level playing field for households to access high-value markets. Third-party certification schemes such as FSC can function as substitutes for state regulation, but if all timber produced in Vietnam must be certified as legal, they may no longer be as relevant or as in-demand by IKEA and other importers in sensitive markets. However, at the time of this publication, IKEA still requires 100 percent FSC-certified timber. Households will likely still continue seeking certification if economic returns from FSC-certified timber are higher than those for legal timber.

6.7 How Does Access to Land Impact the Effectiveness of the Linkage Model?

Allocation of forestland from the State to households, and the proper issuance of land use certificates, is an important precondition for the linkage model. Currently, many households in mountainous areas lack access to forest plantation land (To Xuan Phuc et al. 2013), and many others have limited landholdings. The benefits of plantation forests are numerous, especially for households, including increasing forest cover and supplying timber for processing (thereby improving household income). Expanding land access to more households brings about integrated economic, social, and environmental benefits – and linking companies and households to produce legal timber has the potential to maximize these benefits.

How can Vietnam expand its forestland area controlled by households? One available source is the 2.7 Mha currently managed by the Commune People's Committees. This is not ideal: some households have already accessed and used CPC land, not all of the land is unsuitable for cultivation, and some areas are too far from villages and roads, making them economically inefficient. However, allocating the remaining area to households – particularly landless households – and expanding the linkage model to this area could create a new source of sustainable, legal timber.

More importantly, a much greater source of forestland in Vietnam is that which is managed by SFCs. In recent years, the government has restructured the forestry sector, allocating large swaths of land from SFCs to local governments (to then be allocated to households) as SFCs were deemed inefficient in managing forestland. There should be a mechanism in place to ensure that this land is allocated to landless or land-poor households, not to other actors (e.g., private companies), in order for them to develop plantation forests. In addition, the government should continue to review and evaluate the effectiveness of land use by the SFCs still operating in mountainous forest areas. If the results of these reviews and assessments show that the aggregate benefits of allocating land to households are higher than those of SFC-managed land, the remaining SFC-managed land should be transferred to households.

Conclusion

Our research generated several important questions regarding the future of the IKEA linkage model. In the context of limited resources, strict FSC requirements, and current levels of production, is the linkage model actually feasible for households? If forestland owners are not able to participate in certification in the associated value chain with wood processing companies, should the relationship be established between companies and households? And if so, what should the scale of this relationship be to ensure optimal benefit for all participants?

Findings showed that if belief in a fair and equitable business model is built and maintained based on responsibilities and resources of stakeholders, value chain relationships will bring greater and more sustainable benefits. This “*belief*” and “*fair share of benefits based on the responsibility of the involved parties*” were emphasized throughout the research process, with both companies and households in favor of establishing the linkage if it is based on these foundational principles.

The viability of the linkage model depends on several factors, including specific market requirements and participant conditions. The model is suitable for households with access to land and sound financial resources, and high levels of intensive farming. It can only succeed if the benefits of certified plantation forest production accrued to households exceed those of traditional production, once all related costs are accounted for. Households with limited production capacity will not have sufficient resources for long-term investments, and are likely better off seeking linkages with companies that do not require certified timber materials. Non-certified but *legal* timber produced by households could still be marketable to companies wishing to access markets outside of Vietnam with demand-side timber legality requirements. In summary, the linkage between wood processing companies and households in Vietnam has great potential, but it must be pursued intentionally given the large number of households, the limited area for forest plantations, associated transaction costs, and its current dependence on external technical and financial support.

The Vietnamese government has an important role to play. Authorities should not directly engage in linkage activities such as community mobilization campaigns, nor should they issue administrative orders requiring households to participate. Rather, they should promote the linkage model as an investment vehicle and maintain an open institutional environment (with clear regulations related to land use, management, and the issuance of land use certificates) that can attract businesses and households. Authorities should also create and enforce mechanisms to improve business confidence, including stronger sanctions to minimize the risks when households break contract. Finally, the government should establish measures to ensure equitable economic, social, and environmental benefits are accrued to stakeholders who join the linkage model, and prioritize mutual trust and fair benefit-sharing in order to realize these goals.

Appendices

Appendix 1: Forest Ownership in Vietnam as of December 31, 2015

No.	Owners	Area (ha)	Percentage (%)
1	State-Owned Enterprise	1,454,361	10.3
2	Forest Management Board	4,896,160	34.8
3	Other economic organizations	241,534	1.7
4	Armed Forces	170,161	1.2
5	Households	3,145,967	22.4
6	Communities	1,110,408	7.9
7	Other organizations	342,446	2.4
8	People's Committee	2,700,819	19.2
	Total	14,061,856	100.0

Source: Decision 3158/QĐ-BNN-TCLN signed by Minister of MARD dated 27 July 2016 on forest status in 2015.

Appendix 2: Background on the Forest Stewardship Council (FSC)²⁸

The Forest Stewardship Council (FSC) is an international non-governmental organization established in 1993 to encourage responsible forest management. FSC has established a number of international standards (10 principles and 56 criteria) and a system of authorized certification bodies²⁹ to certify forest management organizations, enterprises, producers, and traders of forest products in accordance with these standards.

The FSC Forest Management Standards are categorized as follows:

- **FSC-FM (Forest Management certification):** For forest plantation and harvesting. The certification of defined forest areas/Forest Management Units (FMUs) is achieved through compliance with the 10 FSC principles.
- **FSC-CoC (Chain of Custody certification):** For processing of forest products. Materials or products achieving FSC certification must be designated and labeled as such, and separate from other materials.
- **FSC-CW (Controlled Wood):** For forest management, manufacturing, processing, or trade of timber. FSC-CW is approved by the FSC to eliminate unacceptable wood sources.

As of December 2016, there were over 190 Mha of FSC-certified forest in 83 countries (with 1,453 individual certificates). Vietnam has been granted 24 FSC-FM certificates with a total forest area of 203,863 ha and 526 FSC-CoC certificates. FSC-FM certificates in Vietnam, which are granted to forestry companies and forest plantation household groups for manufacturing, are mainly assessed by the GFA GmbH, in accordance with the Interim Standards for Forest Governance Council in Vietnam.³⁰ FSC-CoC certificates in Vietnam, which are granted to processing companies and sawmills, are largely assessed by SGS and RA in accordance with FSC-STD-40-004 V2-1. FSC certificates issued based on an initial assessment, and re-issued based on periodic re-assessment and evaluation. The duration of certification varies depending on certificate type, usually from one to five years.

GFA evaluates each unit according to established principles and criteria, with four potential outcomes: Pass, Critical Error, Mitigation, and Observation. Appropriate corrections / corrective action requests will be made for those assigned Error or Observation status. A request for critical correctional corrective actions (critical CARs) may be given due to severe errors in achieving the objectives of the relevant standard requirements. The FMU (or representative unit) must carry out immediate and full corrective actions before the certificate is issued or reissued. If the critical error is not remedied within the allowed time, the certificate will be temporarily suspended. A request for minor corrective action (minor CARs) may be given if the standard requirements of the relevant FSC have not been achieved. It is considered to be temporary. This error does not affect whether or not a certificate is issued, but notes that the issue must be corrected before the next evaluation. If not, the status changes to critical CAR, and certification may be suspended if issues remain uncorrected. Observation does not affect certification but draws attention to problems at an early stage. It does not constitute an error, but could be elevated if the issue remains uncorrected. In the event of critical faults, the Forest Management Authority must submit evidence of corrective action and prevention measures to the GFA within a designated time, and maintain this evidence for the next evaluation.

²⁸ Sources: <https://ic.fsc.org/en/about-fsc>; <http://www.nepcon.org/vi/he-thong-fsc>; <http://chungnhan.vn/chung-nhan-tieu-chuan-rung-fsc.html>; <http://senhowoodpellets.vn/fsc-la-gi/>; http://www.gfa-cert.com/574990/STD_FM_GFA_Standard_Vietnam_1.1_vn.pdf.

²⁹ Examples of authorized certification bodies include SGS, Woodmark, BM TRADA (UK), GFA Terra Systems (Germany), and Smartwood (US)

³⁰ The latest version of this Interim Standard is Version 1.1, updated on September 4, 2015

Appendix 3. Scenarios on Covering FSC Costs for Quang Tri Forest Plantation Groups

Indicator	Unit	Commitment of increasing the purchasing price of FSC timber compared to non-FSC timber (common)				
		20%	18%	15%	10%	5%
Total profit of 10 years cycle per ha	Million VND	120	120	120	120	120
Profits from differences in timber purchasing prices per ha	Million VND	20.0	18.3	15.7	10.9	5.7
7% of the different profit per ha	Million VND	1.4	1.3	1.1	0.8	0.4
Annual membership fee (0.1 million VND * 529 members)	Million VND	52.9	52.9	52.9	52.9	52.9
The cost of granting the FSC certification one year for the entire area (US\$28,000 * 2 review cycles/10 years) * VND22,500 / VND1,000,000)	Million VND	126	126	126	126	126
Minimum area to be harvested annually to cover the FSC fee (Use only 7% incremental difference)	ha	90	98	115	165	315
Minimum area to be harvested annually to cover the FSC fee (Use 7% incremental difference + membership fee)	ha	52	57	67	96	183
Minimum area that the households group need to have in the 10-year cycle in order to have sufficient funds to pay the FSC fee (Use only 7% incremental difference)	ha	900	983	1,150	1,650	3,150
Minimum area that the households group need to have in the 10-year cycle in order to have sufficient funds to pay the FSC fee (Use 7% incremental difference + membership fee)	ha	522	570	667	957	1,828

Note: Above calculation is based on average profit data (VND120 million per ha) provided by members of Quang Tri FSC plantation groups. The association currently has 529 members who are local forest growers; the total area of the FSC granted plantation forest (as of September 2015) was 1,392.39 ha.

Appendix 4: Comparison of Forest Production Practices for FSC-certified v. Non-certified Households

Indicator	Forest Plantation Households Following FSC Standards	Forest Plantation Households Following Traditional Way (Non-FSC Standards)
Density of cultivars	Low density (1.333 – 1.660 roots/ ha)	Thick density (1.600 – 3.400 roots/ha)
Species of cultivars	hybrid <i>Acacia auriculiformis</i> , <i>Acacia mangium</i> , <i>Acacia auriculiformis</i>	hybrid <i>Acacia</i>
Harvest cycle	Common 8-10 years	Common 5-7 years
Land using percentage	Removing one part of the area for corridors near rivers and streams, etc.	100% of the area can be planted forest
Origin of cultivars	Clear purchasing regulation on cultivar origin according to the list provided by the province; having invoice	Household self-decided, unclear origin, free trade
Planting and caring technique	<ul style="list-style-type: none"> To plant pure species To prepare land, dig holes by machine, properly sized holes To plant trees following contour lines To manure and cover the hole before planting To cut grass by hand, no burning of vegetation or controlled collection (controlled burning) To apply additional fertilizers in the third year To thin in the 3rd and 5th year, low density plantation from the beginning without thinning Density of trees is approximately 900-1,000 roots per ha Using plant protection drugs according to the prescribed list Not use herbicide Protection patrol combined pruning Make a fire barrier 	<ul style="list-style-type: none"> To combine agricultural crops in the early stages To develop soil, to dig holes by hand, not follow specific specifications To use or not use fertilizer Patting, burning across the area Apply or do not apply fertilizer (depending on economic conditions of the household) To prune the 3rd or 4th year, and 5th year (if following the 7-year exploitation cycle) The remaining density is approximately 900-1,200 roots per ha To use plant protection drugs To use herbicides Protection patrol combined pruning Most people do not pay attention to the fire barrier
Credit access and technical support	<ul style="list-style-type: none"> Processing companies sponsor the cost of certification Processing company provides preferential loans for the FSC plantation forest area from over 5 years, pledges to sell the wood to the processing companies Households take part in technical training, fire prevention 	<ul style="list-style-type: none"> Technical support from local forestry, but not often There is a loan program of the State but it is difficult to access To be informed by the local authorities / forest rangers on the prevention and fight against forest fires
Mode and conditions of selling forests	<ul style="list-style-type: none"> It must have a harvest plan approved 1 year in advance Only clear harvest with small forest plot of less than 5 ha Mainly hiring harvest 	<ul style="list-style-type: none"> It is not necessary to have plan for harvesting There are regulations on applying for harvesting, but they are usually not carried out

	<ul style="list-style-type: none"> • To sell directly to the large wood processing companies that have enough qualifications for making lumber • Processing companies commit to buy the FSC timber at a higher price of 10-18% than the timber of the same size without the FSC • To sell branches, small wood chips to processing or other purchasing facilities • Households are not required to sell to a particular processing/ purchasing company. 	<ul style="list-style-type: none"> • To be white exploited • To sell standing tree or renting harvest • To sell all to processing or purchasing facilities (chips or sawdust) • Self-managed forest growers (find the buyer by themselves and agree on the selling price)
<p>Related costs / Required equipment</p>	<ul style="list-style-type: none"> • Costs follow the requirements of certified wood and evaluation • Equipment/tools (sawmill, lawnmowers, cutters, hoes, shovels, labor protection, etc.) must comply with the regulations 	<ul style="list-style-type: none"> • Basic equipment, low cost • Used equipment is not required

Source: The FSC certified forest plantation group in Gio Linh (Quang Tri) and non-FSC certified forest plantation group in Yen Binh (Yen Bai).
September, October 2016.

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